

Appl. No. 10/765,752
Amdt. Dated September 14, 2005
Reply to Office Action of July 28, 2005

WHAT IS CLAIMED IS:

1. (Currently Amended) An optical communication module for performing single-core bi-directional communication, comprising:
 - an optical fiber;
 - a light-emitting element for emitting light; and
 - a photoreceptor element for receiving light,wherein said optical fiber has an end face at one end, said end face having an ~~inclined part~~ angled portion to form forming a reflecting surface;
 - wherein ~~any either~~ one of said light-emitting element and said photoreceptor element is arranged ~~with said one of the elements~~ adjacent to an end of the fiber along an axis of light propagation and facing faces said end face of said optical fiber, and the other of said light-emitting element and said photoreceptor element is arranged ~~beside~~ adjacent an outer surface of said optical fiber with the other element in a radial direction from the center of the optical fiber and facing faces said reflecting surface; and
 - wherein said photoreceptor element is arranged outside a maximum diffusion range of the light emitted from said light-emitting element.
2. (Currently Amended) The optical communication module according to claim 1, wherein a whole of said end face of said optical fiber is obliquely ~~inclined~~ angled to form the reflecting surface.

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3. (Currently Amended) The optical communication module according to claim 1, wherein said light-emitting element is arranged with the element facing said end face of said optical fiber, and

~~wherein a support member for said light-emitting element is attached to said end face of said optical fiber as abutted thereto.~~

4. (Currently Amended) The optical communication module according to claim 3 ~~10~~, wherein a support member for said photoreceptor element is attached to the support member for said light-emitting element with the members being abutted.

5. (Currently Amended) The optical communication module according to claim 1, wherein ~~said end face of the optical fiber has an obliquely inclined reflecting surface,~~ said ~~obliquely inclined~~ angled reflecting surface ~~including~~ includes a portion of an end face of a core[[,]] ~~said portion also being at least a part of said end face of the optical fiber.~~

6. (Currently Amended) The optical communication module according to claim 5, wherein said angled reflecting surface inclines at an angle of about 45 degrees with respect to an optical axis of said fiber.

7. (Original) The optical communication module according to claim 1, wherein a light-receiving plane normal line of said photoreceptor element is arranged at an angle of about 90 degrees with respect to an optical axis of said fiber.

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8. (Original) The optical communication module according to claim 1, wherein said light-emitting element is a surface-emitting semiconductor laser.

9. (Currently Amended) A connector incorporating an optical communication module, said optical communication module comprising:

a circuit for performing conversion between an electric signal and an optical signal;

an optical fiber;

a light-emitting element for emitting light; and

a photoreceptor element for receiving light,

wherein said optical fiber has an end face at one end, said end face having an inclined part to form a reflecting surface;

wherein ~~any~~ either one of said light-emitting element and said photoreceptor element is arranged ~~with said one of the elements~~ adjacent to an end of the fiber along an axis of light propagation and faces facing said end face of said optical fiber, and the other of said light-emitting element and said photoreceptor element is arranged ~~beside~~ adjacent an outer surface of said optical fiber with the other element in a radial direction from the center of the optical fiber and facing faces said reflecting surface; and

wherein said photoreceptor element is arranged outside a maximum diffusion range of the light emitted from said light-emitting element.

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10. (New) The optical communication module according to claim 3, wherein a support member for said light-emitting element is attached to said end face of said optical fiber as abutted thereto.

11. (New) An optical communication module for performing single-core bi-directional communication, comprising:

an optical fiber;

a first light-emitting element for emitting light and a first photoreceptor element for receiving light at one end of the fiber, and at least a second light-emitting element for emitting light at another end of the fiber, wherein said first photoreceptor element receives light emitted from said second light-emitting element;

wherein at least the one end of said optical fiber has an end face, said end face having an inclined part to form a reflecting surface;

wherein either one of said light-emitting element and said photoreceptor element is arranged adjacent to an end of the fiber along an axis of light propagation and faces said end face of said optical fiber, and the other of said light-emitting element and said photoreceptor element is arranged adjacent an outer surface of said optical fiber in a radial direction from the center of the optical fiber and faces said reflecting surface; and

wherein said photoreceptor element is arranged outside a maximum diffusion range of the light emitted from said light-emitting element.